BULK SPECIFIC GRAVITY AND MOISTURE DETERMINATION (Rock, Gravel, Shale, Soil Clods, etc.)

Location _____ Date _____

Watershed _____ Subwatershed _____ Site _____

Contract No. _____ Contractor _____

Tested by _____ Computed by _____ Checked by _____

Moisture Determination

1. Weight of moist sample plus container _____ g
2. Weight of dry sample plus container _____ g
3. Weight of container _____ g
4. Weight of dry sample = (2) − (3) _____ g
5. Moisture content = [((1) − (2)) ÷ (4)] 100 _____ %

Bulk specific gravity — method A — hard, sound rock or gravel

6. Weight of container (basket) or cord in air _____ g
7. Weight of container (basket) or cord in water _____ g
8. Weight of sample, natural moisture, plus basket in air _____ g
9. Weight of sample, natural moisture, in air = (8) − (6) _____ g
10. Weight of sample, saturated, plus basket in air _____ g
11. Weight of sample, saturated, in air = (10) − (6) _____ g
12. Weight of sample, saturated, plus basket in water _____ g
13. Weight of sample, saturated, in water = (12) − (7) _____ g
14. Volume of sample by weight = (11) − (13) or measured volume _____ cm^3
15. Bulk specific gravity, natural moisture (G_{mm}) = (9) ÷ (14) _____ g/cm^3
16. Bulk specific gravity, ovendry (G_m) = (4) ÷ (14) _____ g/cm^3
17. Bulk density, natural moisture (γ_m) = (16) x 62.4 _____ lb/ft^3
18. Bulk density, ovendry (γ_d) = (15) x 62.4 _____ lb/ft^3

Bulk specific gravity — method B — materials that disintegrate in water

19. Weight of sample in air _____ g
20. Weight of sample plus wax in air _____ g
21. Weight of wax in air = (20) − (19) _____ g
22. Weight of sample plus wax in water _____ g
23. Volume of sample plus wax by weight = (20) − (22) or measured volume _____ cm^3
24. Volume of wax = (21) ÷ specific gravity of wax _____ cm^3
25. Volume of sample = (23) − (24) _____ cm^3
26. Bulk specific gravity, natural moisture (G_{mm}) = (19) ÷ (25) _____ g/cm^3
27. Bulk specific gravity, ovendry (G_m) = (26) ÷ [(1 + (5)) 100] _____ g/cm^3
28. Bulk density, natural moisture (γ_m) = (26) x 62.4 _____ lb/ft^3
29. Bulk density, ovendry (γ_d) = (27) x 62.4 _____ lb/ft^3